

## **REMARKS**

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

### **I. CLAIM STATUS & AMENDMENTS**

Claims 1, 3, and 5 were pending in this application when last examined. Claims 1, 3, and 5 have been examined on the merits, and stand rejected.

The present amendment amends claims 1 and 3 to further clarify the invention. Support for the amendments to claims 1 and 3 can be found in the Specification, for example, at page 7, lines 10-15 and in original claims 1 and 3. Therefore, no new matter has been added by this amendment.

Applicants reserve the right to file a continuation or division application on any canceled subject matter.

Claims 1, 3, and 5 are pending in this application.

### **II. REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH**

Claims 1, 3, and 5 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. See Office Action, page 2, Item 1.

Claims 1 and 3 have been amended to remove reference to the “main ingredient”, thereby obviating this rejection. Therefore, in view of the foregoing amendment, the rejection of claims 1, 3, and 5 under 35 U.S.C. § 112, second paragraph, is untenable and should be withdrawn.

### **III. REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103**

#### **A. Sato (claim 1)**

Claim 1 stands rejected under 35 U.S.C. § 102(e), as allegedly anticipated by or, in the alternative, as allegedly unpatentable under 35 U.S.C. § 103(a) over Sato et al., U.S. Patent No. 5,753,727. See Office Action, page 2, Item 3. Applicants respectfully traverse this rejection for the following reasons.

Sato fails to anticipate the claimed invention because the reference fails to teach carboxylated chloroprene rubber as the main ingredient of an adhesive composition in the amounts claimed.

To anticipate a claim, a cited prior art reference must either expressly or inherently teach each and every element of the claimed invention.

In the instant case, the synthetic chloroprene rubber adhesive composition of the present invention includes:

1. 100 parts by weight of carboxylated synthetic chloroprene rubber as the main ingredient;
2. tackifier; and
3. 1-30 parts by weight of chlorinated polypropylene and/or chlorinated polypropylene derivatives,

wherein the chlorinated polypropylene derivative is acrylic-monomer-and-methacrylic-monomer-grafted chlorinated polypropylene. Thus, carboxylated synthetic chloroprene is the main ingredient of the instant invention.

By contrast, Sato discloses an adhesive composition containing:

1. either a 100 parts by weight of chloroprene rubber as the main ingredient or a 50:50 combination of chloroprene rubber and carboxylated chloroprene rubber as the main ingredient;
2. tackifier;
3. 0.1-30 parts by weight of chlorinated polyolefin; and
4. curing agent for the epoxy resin.

Accordingly, Sato teaches that either chloroprene rubber or a 50:50 combination of chloroprene rubber and carboxylated chloroprene rubber should be the main component. Not carboxylated chloroprene rubber as the main component of the adhesive composition.

Thus, Sato fails to teach each and every element of the claimed invention, and thus, cannot be said to anticipate the claimed invention.

For these same reasons, Sato cannot be said to render the claimed invention obvious.

To establish obviousness, three criteria must be met. First, the prior art references must teach or suggest each and every element of the claimed invention. Second, there must be some suggestion or motivation in the references to either modify or combine the reference teachings to arrive at the claimed invention. Third, the prior art must provide a reasonable expectation of success.

Again, Sato fails to teach and/or suggest the use of carboxylated chloroprene rubber as the main ingredient of the adhesive composition in the amounts claimed (100:1-30 parts by weight).

The Examiner asserts that "carboxyl group containing chloroprene rubbers are clearly disclosed as suitable - note esp. Examples 15-17 in table 3" of Sato. See Office Action, page 2, item 3. However, this assertion is based on two misunderstandings of the reference.

First, Sato discloses a 50:50 combination of "chloroprene rubber and carboxylated chloroprene rubber" as the main ingredient of an adhesive composition. Sato, column 11, Table 3. This is not a suggestion to use carboxylated chloroprene rubber as the main ingredient. By contrast, the present invention contains carboxylated chloroprene as the main ingredient. Also, the adhesive composition of the present invention does not include "the combination of chloroprene rubber and carboxylated chloroprene rubber." The present invention only includes carboxylated chloroprene rubber as a main ingredient and chlorinated polypropylene and/or its derivatives.

Second, Sato concludes that it is the addition of "chlorinated polyolefin" that has effects on adhesive properties to polypropylene. Sato, column 11, lines 66-67. Applicants note that the addition of chlorinated polyolefin is considered common sense in the field as evidenced by JP 1-153781. The present invention, on the other hand, teaches that the use of carboxylated chloroprene as the main ingredient (100:1-30 parts by weight) is responsible for the increase in adhesive properties. In this regard, the present invention actually increases the adhesive properties of such conventional adhesive compositions including chlorinated polyolefin as disclosed in Sato. Thus, there is no suggestion and/or motivation in Sato for the use of carboxylated chloroprene rubber as the main ingredient.

adhesive compositions of the present invention (Test Examples Nos. 2-4) in which carboxylated synthetic chloroprene rubber is used as the main ingredient with conventional synthetic chloroprene rubber adhesives (Test Example No. 1) such those in Sato, wherein the main ingredient is chloroprene. See Specification, page 4, line 10 to page 6, line 13. As can be seen in Table 2 on page 5, and as discussed at page 6, lines 1-13, the conventional synthetic chloroprene rubber adhesives exhibited the lowest adhesion when compared to those of the present invention. In fact, the adhesive compositions of the present invention exhibited higher values of adhesive strength in all normal test conditions, i.e., heating, ageing, and high temperature. Thus, the use of carboxylated chloroprene as the main ingredient of adhesive composition provides unexpected results.

In addition, as shown in comparative Examples 3-5 in Table 3 of Sato, adhering properties were **not improved** even though the composition comprises 50 parts by weight of chloroprene rubber and 50 parts by weight of carboxylated chloroprene rubber as the main component.

In sum, Sato does not discuss the effect of **carboxylated** chloroprene rubber on adhesive properties. Thus, Sato fails to provide the requisite suggestion and/or motivation to use carboxylated chloroprene rubber as the main ingredient of an adhesive composition, particularly, in the amounts claimed.

Therefore, in view of the foregoing amendments and remarks, the rejection of claim 1 under 35 U.S.C. §§ 102(e) and 103(a) is untenable and should be withdrawn.

**B. Sato in view of the admitted prior art (claims 3 and 5)**

Claims 3 and 5 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Sato et al., U.S. Patent No. 5,753,727, and further in view of the admitted state of the prior art. See Office Action, pages 3-4, Item 4.

Applicants respectfully traverse this rejection for the same reasons discussed immediately above, and for the reasons set forth below.

The Examiner asserts that the background section of the Specification indicates that parts are conventionally bonded to speaker frames with adhesives and further that such frames are conventionally formed from polypropylene. However, as discussed above, Sato, which represents

the conventional state of the art, does not teach and/or suggest **carboxylated** chloroprene rubber as the main ingredient of the adhesive composition in the amounts claimed. Furthermore, the aim of the present invention is to increase the adhering properties of the conventional adhesive compositions.

Moreover, as demonstrated in the Specification, the present invention provides surprising and unexpected results indicative of non-obviousness when compared to the conventional adhesives. Again, the conventional synthetic chloroprene rubber adhesives exhibited the lowest adhesion when compared to the adhesive compositions of the present invention. The adhesive compositions of the present invention exhibited significantly higher values of adhesion strength in all test conditions of normal condition, heating, ageing, and high temperature.

Therefore, in view of the foregoing, the rejection of claims 3 and 5 under 35 U.S.C. § 103(a) is untenable and should be withdrawn.

**C. Admitted State of Prior Art in view of Smith, Kirk-Othmer, optionally in view of Sato and/or JP1-153781 (claims 1, 3, and 5)**

Claims 1, 3, and 5 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatenable over the admitted state of the prior art in view of Smith, U.S. Patent No. 3,347,847 and/or Kirk-Othmer Encyclopedia of Chemical Technology, and optionally further in view of Sato et al., U.S. Patent No. 5,753,727 and/or the Abstract of JP1-153781. See Office Action, pages 4-5, Item 5.

Applicants respectfully traverse this rejection for the same reasons discussed above, and for the reasons noted below.

The deficiencies of Sato and the alleged admitted state of the prior art are discussed above and are herein reiterated.

Smith discloses a process for isolating a stable synthetic carboxylated chloroprene rubber. Smith fails to discuss its adhesive properties against polypropylene. Thus, Smith does not suggest the use of carboxylated chloroprene rubber an adhesive against polypropylene.

The Kirk-Othmer Encyclopedia of Chemical Technology discloses that carboxylated chloroprene rubber has good adhesive strength and high temperature cohesive strength.

However, this reference fails to teach and/or suggest the specific combination of the claimed invention, namely the use of carboxylated chloroprene as the main ingredient.

JP1-153781 only discloses one liquid type of self-crosslinking chloroprene adhesive including chlorinated polypropylene. As discussed above, the addition of chlorinated polypropylene is considered known in the art. However, as demonstrated in the Specification, the present invention actually increases the adhering properties of the conventional adhesive compositions including chlorinated polypropylene. Also, the cited reference fails to teach and/or suggest the specific combination of the claimed invention, wherein carboxylated chloroprene is used as the main ingredient.

Thus, in view of the above, the claimed invention is not obvious over the cited references because the cited art references fail to teach each and every element of the claimed invention, and they lack a suggestion to combine/modify the reference teachings to arrive at the claimed invention. Therefore, in view of the foregoing, the rejection of claims 1, 3, and 5 under 35 U.S.C. § 103(a) is untenable and should be withdrawn.

#### CONCLUSION

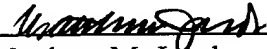
In view of the foregoing amendments and remarks, Applicants submit that the present application is in condition for allowance and notice to that effect is hereby requested.

If it is determined that the application is not in condition for allowance, the Examiner is invited to telephone the undersigned attorney to expedite prosecution of the present application.

Respectfully submitted,

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